How to Present a Poster

Computing Sciences Summer Student Program

Jonathan Carter

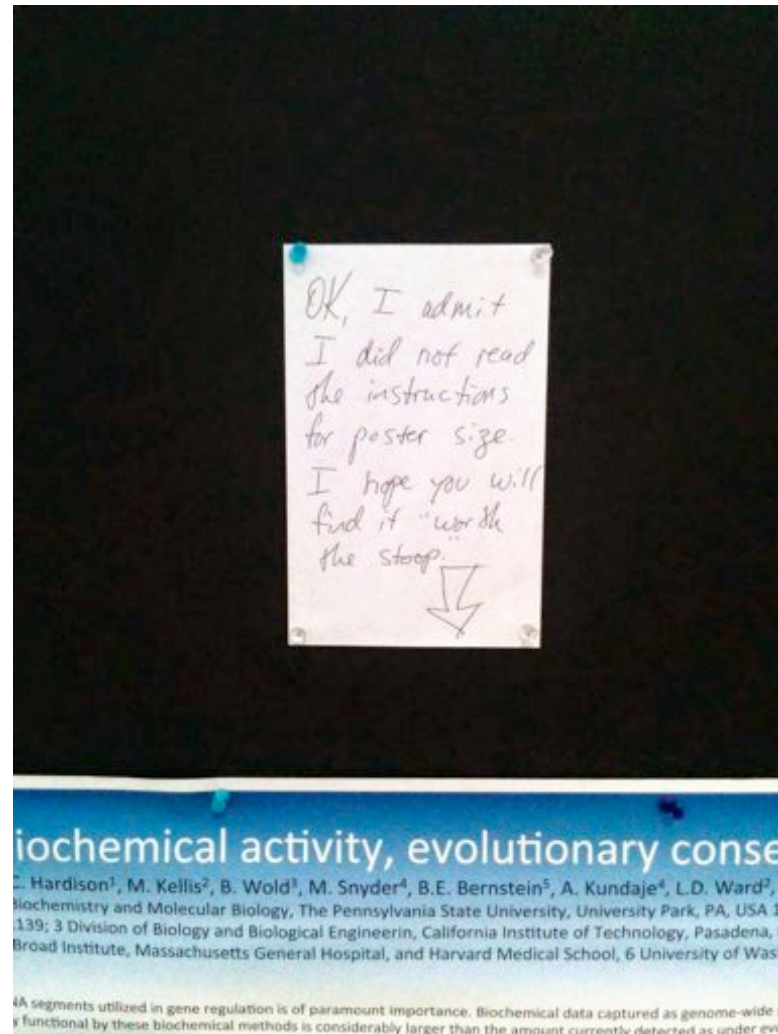Computing Sciences Area Deputy

jtcarter@lbl.gov

July 10, 2014

Poster Sessions at Major Conferences

- **Sessions for attendees to mingle in an around posters and presenters**

- **Posters usually viewable any time the conference is in session**

- **Sometimes 100s of posters are presented**

Follow Poster Session Instructions

CS Student Program Poster Session

- **August 7th, 3:30-5:00**

- **Bldg 54, room 130 (Cafeteria dining room)**

- **Held in conjunction with WFDE Program Students**

- **~30 posters presented**

- **High visibility for lab scientists in CS and elsewhere in the lab**

Presentations vs. Papers

Papers

- Single preplanned narrative
- Remote audience
- Remote engagement
- Multiple pages
- Supporting material can be provided, e.g. references, URLs

Presentations

- Speech
- Single narrative
- Captive audience
- 15+ minutes
- Multiple "slides"
- Fixed mode of interaction

Presentations vs. Papers vs. Posters

Papers
- Single preplanned narrative
- Remote audience
- Remote engagement
- Multiple pages
- Supporting material can be provided, e.g. references, URLs

Presentations
- Speech
- Single narrative
- Captive audience
- 15+ minutes
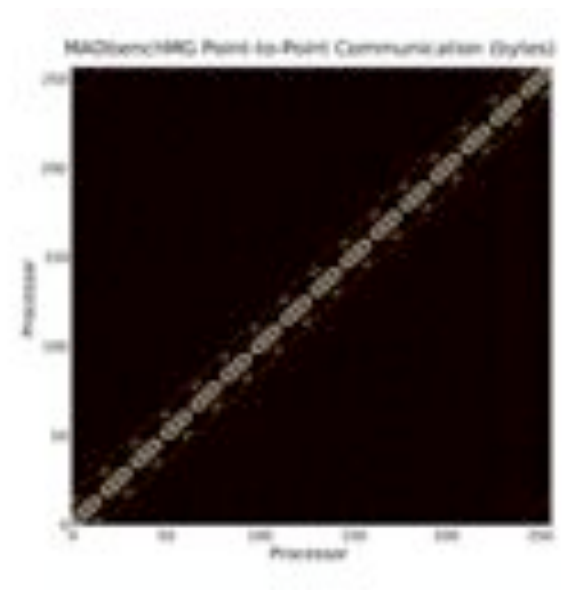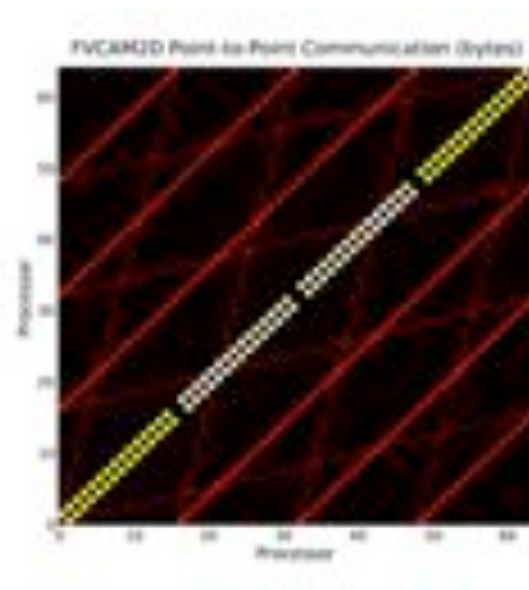- Multiple "slides"
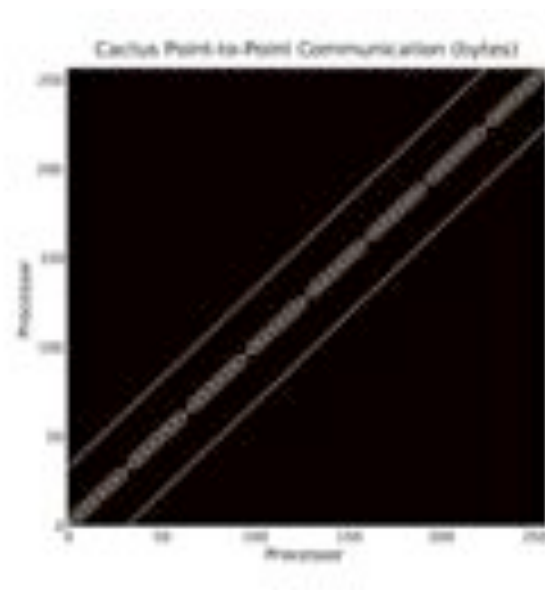- Fixed mode of interaction

Posters
- Discussion
- Multiple narratives
- Browsing audience
- ~5 minutes per discussion
- Single "slide"
- Supporting material can be provided, e.g. paper, tablet device, demo, etc.

BERKELEY LAB
LAWRENCE BERKELEY NATIONAL LABORATORY

Basic Poster Content

- **Title**
  - Briefly convey the subject matter
  - Attract interest without gimmicks

- **Introduction**
  - Problem Statement (why it matters), avoiding as much jargon as possible

- **Methodology**
  - Not too much detail, graphics work well in many cases

- **Results**
  - What worked, what didn't
  - Brief data analysis

- **Conclusions**
  - Your interpretations (Don't repeat results)
  - Further work

- **Citations**

- **Acknowledgements**

- **Contact information!**

BERKELEY LAB
LAWRENCE BERKELEY NATIONAL LABORATORY

Visual Communication

- Graphics to help you talk to your work

- Label graphs and charts legibly, and clearly enough that the label stands on its own

- Use different portions of poster to engage at different level of abstraction and separate logical concepts

BERKELEY LAB
LAWRENCE BERKELEY NATIONAL LABORATORY

Things to Avoid

http://sciencefair.math.iit.edu/display/layoutflow/

- **Too verbose**
  - Aim for 500-700 words

- **Avoid large blocks of text**
  - Consider using lists

- **Avoid over-crowded or busy layouts**
  - Flow is often confusing, or the eye doesn't know where to look

http://bonfx.com/23-really-bad-font-choices/

- **Avoid garish color schemes or font choices**
  - Dark backgrounds can print poorly

BERKELEY LAB
LAWRENCE BERKELEY NATIONAL LABORATORY
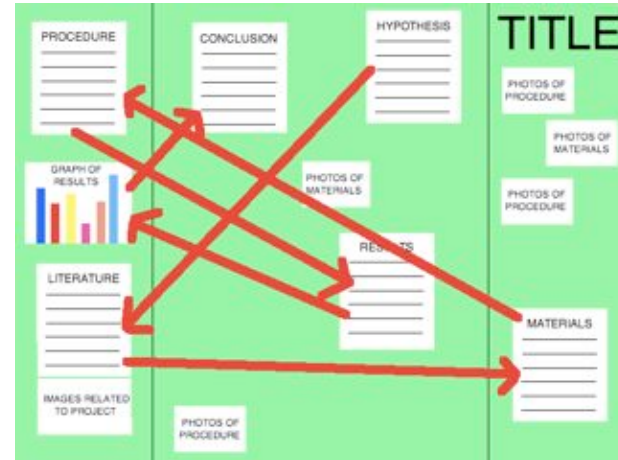
Bad Poster Bingo by Zen Faulkes

Different parts of poster don't line up	Boxes within boxes	Zigzag reading order	More than three typefaces	Long-winded title
Gradient fills in coloured boxes	Big blocks of text	Photographic background	Unlabelled error bars on graphs	Pixelated pictures
More than five colours	Institutional logos bookending title	Free space	ALL CAPITALS	Text with shadows, outlines, or bevels
Abstract	Underlined text	Comic Sans	3-D graphs	Checking tablet or phone during presentation
Tables showing data that could be in a graph	Poster does not fit on poster board	Comic Sans (it's that annoying)	Objects almost touching or overlapping	Tiny, unreadable type

KELEY LAB
BERKELEY LAB LAWRENCE BERKELEY NATIONAL LABORATORY

Marketing Your Poster

- Make your poster compelling so it will stand out

- Look like you want people to stop and talk

- Don't stand in front of your poster

- Make room for multiple visitors

- Talk to your visitors as opposed to your poster

- Think about auxiliary materials, e.g QR-codes, handouts

- Perhaps for some:
  - Coordinate your outfit with your poster
  - Keegan, D.A., and S.L. Bannister. 2003. Effect of colour coordination of attire with poster presentation on poster popularity. *Canadian Medical Association Journal* 169:1291-1292

BERKELEY LAB
LAWRENCE BERKELEY NATIONAL LABORATORY

WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECTIVITY?

- Too many large text blocks, Some issues about flow (solution stated before problem), Poor color contrast in some sections, Some unlabeled figures, A cut-and-paste from Excel, but
- A reasonable overall balance and format, clear titles

G.R. Hess, K. Tosney, and L. Liegel. 2010. Creating Effective Poster Presentations. http://www.ncsu.edu/project/posters

Computing Sciences

- Too many large text blocks
- Text confused with background
- Randomly sized and colored boxes
- Annoying logos
- Cutesy and hard-to-read title
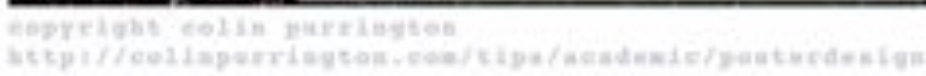
Algorithmic Probes for Evaluating Computer Architectures

FUTURE TECHNOLOGIES GROUP

Khaled Ibrahim kzibrahim@lbl.gov   Shoaib Kamil skamil@cs.berkeley.edu

Behavioral Modeling Using Apex Map

Apex-Map: Memory Access Probe

Apex-Map generates memory references as stochastic variates based on sampling the following random process:
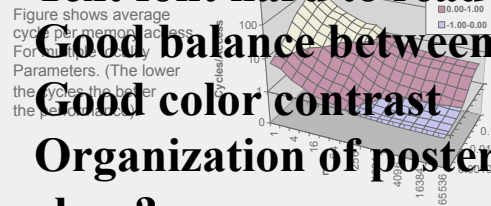
$$x_i = \frac{M}{L} r^{1/\alpha}$$

where α represents the temporal locality parameter of an application, M represents the memory footprint of this application, and L represents the spatial locality parameter of the application.

Assessing the Performance of an Architecture

Performance curve studies the system interaction with multiple locality parameters.

Figure shows average cycles per memory access. For different locality Parameters. (The lower the cycles the better the performance)

Using Apex Map as an Application Proxy

Other parameters are added to the model to capture complex application, such as computational intensity, register pressure, and concurrency level.

The figures below shows the that Apex-Map can follow the behavior of CUPS application closely.
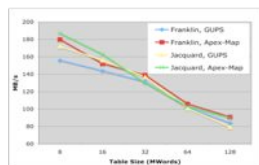
Apex-Map	Stream
Pattern	Random
Temp Locality	1
Spatial Locality	1
Reg. Pressure	1
Comp. Intensity	15
Concurrency	NUPDATE
Access Mode	NESTED

Application Characterization

Application Communication Profiles

Characterize communication by using IPM profiling layer: run the full application unmodified and obtain the communication patterns. This shows the variety of communication signatures of DOE apps.
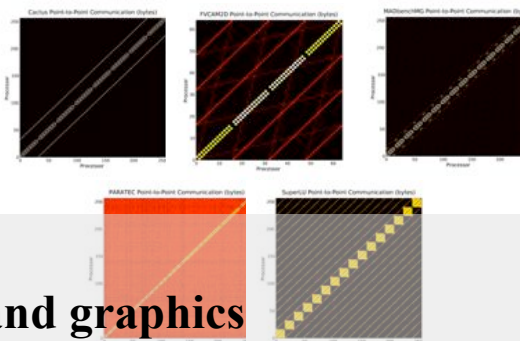
Extract Major Kernels

Based on communication and performance profiles, extract the major computational kernels into probes/reduced benchmarks, which can then be used for architectural evaluation.

Kernel Optimization

StencilProbe: Benchmark & Testbed for Stencil Optimizations

The StencilProbe enables optimization exploration of extracted stencil kernels, while avoiding the large overheads of running entire applications.

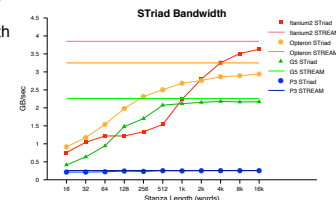Example stencils kernels and their memory access patterns.
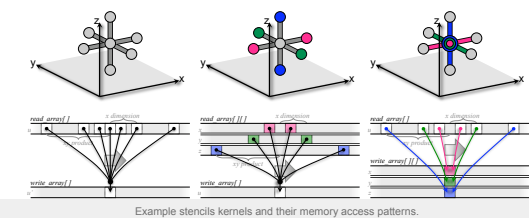
Using extracted kernels from Chombo and Cactus, two applications which heavily use stencils, data shows the StencilProbe accurately mimics application performance.

Discovering Prefetch Behavior using Stanza Triad

Based on the memory access pattern of cache-blocked stencils, the Stanza Triad is a simple version of the STREAM benchmark that uses *stanzas*: unit-stride triads are performed for a set number of locations before jumping in memory.

STriad results show that prefetching engines are sensitive to stanza length and memory bandwidth suffers if stanzas are (and thus stencil cache blocks) are too small.

- **Text font hard to read**
- **Good balance between text and graphics**
- **Good color contrast**
- **Organization of poster reflects organization of project, but is the reading order clear?**

Computing Sciences

BERKELEY LAB
LAWRENCE BERKELEY NATIONAL LABORATORY

- **Striking design and good visual appeal (some people might think it too much like an advert)**
- **Good balance between text and graphics**
- **Good color contrast**
- **Issues on left, solutions on right**
- **Color coding ties panels together**

More resources

- **Colin Purrington, Swarthmore College**
  - http://colinpurrington.com/tips/academic/posterdesign
  - Suggestions for software, templates, and more…

- **George Hess, Kathryn Tosney, and Leon Liegel, North Carolina State University**
  - http://www.ncsu.edu/project/posters/

- **Michael Barton, Bioinformatics Zen**
  - http://www.bioinformaticszen.com

- **Zen Faulkes**
  - http://betterposters.blogspot.com

- **Many YouTube videos…**

For CS Summer Students

- **NERSC students can print their posters at OSF, contact Elizabeth Bautista**

- **SND and CRD students can print their posters in 50A, watch for email (need to be ready by August 1st)**

- **Print your poster in small form and check it carefully, limited redos**

- **Print poster in panels and attach to foam-core board**